AMENDMENT OF SPECIFICATION

Please replace paragraph [0007] with the following replacement paragraph (shown marked-up):

[0007] In accordance with a more detailed aspect of the present invention, the system includes an electromagnetic wave filter comprising a power medium positioned with respect to a region of space; a composition disposed within the region of space for forming a plasma; an energy source electromagnetically coupled to the power medium such that a plasma may be formed in the region of space; and a control mechanism for selecting and regulating plasma density within the region of space to reflect a first electromagnetic signal frequency emitted from a remote source, while at the same time passing a second electromagnetic signal frequency.

Please replace paragraph [0008] with the following replacement paragraph (shown marked-up):

[0008] In accordance with another more detailed aspect of the present invention, an antenna system for receiving electromagnetic waves can comprise an antenna configured for receiving electromagnetic waves; and a plasma filter associated with the antenna and configured for reflecting a first electromagnetic signal frequency emitted from a remote source, while at the same time passing a second electromagnetic signal frequency, such that either the first electromagnetic signal frequency or the second electromagnetic signal frequency is received by the antenna.

Please replace paragraph [0009] with the following replacement paragraph (shown marked-up):

[0009] In accordance with another embodiment of the present invention, a method for selectively receiving an electromagnetic signal from a remote source can comprise the steps of identifying a desired electromagnetic signal frequency to be received from at least one remote source emitting multiple electromagnetic signal frequencies, including the desired electromagnetic signal frequency and at least one undesired electromagnetic signal frequency; generating a plasma that reflects a first electromagnetic signal frequency emitted from the remote source, while at the same time passing a second electromagnetic signal frequency, either the first electromagnetic signal frequency or the second electromagnetic signal frequency

being the desired electromagnetic signal frequency; and positioning an antenna with respect to the plasma such that the desired electromagnetic signal frequency is received by the antenna, and the undesired electromagnetic signal frequency is not substantially received by the antenna.

Please replace paragraph [0015] with the following replacement paragraph (shown marked-up):

[0015] In one embodiment, the electromagnetic wave filter 12 can comprise a power medium 16 positioned with respect to a region of space 18, wherein the region of space 18 includes a composition 20 capable of forming a plasma; an energy source 22 electromagnetically coupled to the power medium such that a plasma may be formed in the region of space 18; and a control mechanism 24 for selecting a power level of the energy source/power medium such that a plasma density formed will reflect an undesired electromagnetic signal frequency 26 emitted from a remote source, while at the same time allowing a desired electromagnetic signal frequency ~~through~~ 28, 30 to pass through electromagnetic wave filter 12. In the embodiment shown in FIG. 1, the power medium is a plasma waveguide, such as that disclosed in ~~two~~ U.S. Patent No. 6,624,719, and U.S. Patent Application ~~Applications~~ having serial number ~~numbers 09/543,431 and~~ 09/790,327, which are incorporated herein by reference, though other power medium devices can be used.

Please replace paragraph [0016] with the following replacement paragraph (shown marked-up):

[0016] The antenna element 14 can be any antenna element configured for receiving electromagnetic signal, but is preferably a plasma antenna. Examples of appropriate plasma antennas that can be used include those described in U.S. Patent Nos. 5,594,456 and 5,990,837, as well as in a U.S. Patent No. 6,369,763 ~~Application having serial number 09/543,445~~, each of which are incorporated herein by reference. Of the desired electromagnetic signal frequency ranges 28, 30 that pass through the filter 12, the plasma antenna 14 can be configured to absorb only a certain frequency range of a signal. For example, if a wide range of frequency signal is emitted toward the system 10 of the present invention, then the system 10 could be configured such that the low frequency signal is reflected from of the filter 12, and the middle

frequency and high frequency signal are allowed to pass through the filter. Further, the plasma antenna 14 can be configured to absorb only a specific range of the filtered signal. For example, the density of the plasma can be configured such that high frequency signal 30 passes through the antenna 14, and middle frequency signal 28 is absorbed by the antenna 14.

Please replace paragraph [0019] with the following replacement paragraph (shown marked-up):

[0019] Though any composition 20 capable of forming a plasma under the right conditions can be used, for practical purposes, the composition will generally be a gas selected from the group consisting of neon, xenon, argon, krypton, hydrogen, helium, mercury vapor, and ~~combinations~~ mixtures thereof. Additionally, the plasma can be formed for short-pulse or continuous electromagnetic wave filtration applications.

Please replace paragraph [0024] with the following replacement paragraph (shown marked-up):

[0024] Turning now to FIG. 2, a graphical representation of the electromagnetic signal frequency range absorbed by the antenna of system 10 is shown. Specifically, an absorption axis 50 and a frequency axis 52 are shown. Region A corresponds to low frequency electromagnetic waves, region B corresponds to middle frequency electromagnetic waves, and region C corresponds to high frequency electromagnetic waves. In region A, no electromagnetic wave absorption is registered with the plasma antenna because the electromagnetic wave filter of FIG. 1 does not allow low frequency electromagnetic waves through represented by ~~item~~ electromagnetic signal frequency 26. Likewise, in region C, no electromagnetic wave absorption is registered as the plasma antenna of FIG. 1 is configured to allow high frequency signal to pass through represented by ~~item~~ electromagnetic signal frequency 30. In region B, all of the absorption activity is shown. Peak 54, which corresponds to middle frequency electromagnetic waves, represented by ~~item~~ electromagnetic signal frequency 28, shows the functional range of absorption. Transition area 56 indicates the frequency range where some electromagnetic wave energy is partially filtered by the electromagnetic wave filter of FIG. 1. Likewise,

transition area 58 indicates the frequency range where some electromagnetic wave energy is absorbed by the plasma antenna of FIG. 1.

Please replace paragraph [0026] with the following replacement paragraph (shown marked-up):

[0026] A control mechanism 24 for selecting a power level of the energy source/power medium is also present such that a plasma density formed will reflect an undesired electromagnetic signal frequency 26 emitted from a remote source, while at the same time allowing a desired electromagnetic signal frequency range 28, 30 through is also present. Because the antenna element 60 in this embodiment is metal, both the middle frequency signal 28 and high frequency signal 30 are detected by the antenna. A signal transmitter or receiver 62 is electromagnetically coupled to the antenna 60 as is known in the art.

Please replace paragraph [0028] with the following replacement paragraph (shown marked-up): 34, 36, 28, and 40

[0028] In this embodiment, the electromagnetic wave filter 12 is configured similar to a corner reflector. As described previously, the electromagnetic wave filter 12 can comprise a power medium, which in this embodiment is four electrodes 66a, 66b, 68a, 68b. An energy source 22 can be electromagnetically coupled to the electrodes 66a, 66b, 68a, 68b such that a plasma may be formed in the region of space 18, which can be generated by composition 20. A control mechanism 24 for selecting a power level of the power medium is present such that a plasma density formed will reflect an undesired electromagnetic signal frequency 26 emitted from a remote source, while at the same time allowing desired electromagnetic signal frequency 28, 30 ~~through~~ to pass through the electromagnetic wave filter 12. The control mechanism 24 also controls a gas regulator 23. The gas regulator is fluidly coupled to the region of space 18 (which in this embodiment is within an enclosed chamber defined by walls 32). The gas regulator can fluidly communicate with the region of space by a conduit 25 that is further regulated by a valve 27. Any pressure component can be altered such as by adjusting the amount of gas present, or by adjusting the temperature, for example. In this embodiment, the antenna control

mechanism 42 and the filter control mechanism 24 are electrically coupled together for intercommunication purposes.

Please replace paragraph [0029] with the following replacement paragraph (shown marked-up):

[0029] Two different antenna elements are shown, each being protected by the plasma filter 12. One antenna is a standard metal antenna 60 connected to a receiver 62. A second antenna is a plasma antenna 14, also connected to a receiver 44. These antennas can be configured as described previously. Specifically, if a plasma antenna is used, the plasma antenna can comprise an enclosed chamber 34; a composition 36 contained within the enclosed chamber capable of forming a plasma; and a power medium 38 electromagnetically coupled to the composition for developing a plasma density within the enclosed chamber. In one embodiment, the power medium can be coupled to an energy source 40.

Please replace paragraph [0031] with the following replacement paragraph (shown marked-up):

[0031] Turning now to FIG. 5, an alternative arrangement is shown that utilizes two plasma shields/filters in accordance with an embodiment of the present invention. The plasma shields/filters each comprise a composition 20 capable of forming a plasma and a region of space 18 defined by walls 32. A horn antenna 80 is shown that can be used for receiving or transmitting electromagnetic energy. The system can be configured such that a desired electromagnetic signal 82a, 82b can be received by the antenna 80 to the exclusion of undesired electromagnetic signal 84a, 84b. Specifically, the system excludes undesired electromagnetic signal 84a from reaching the antenna by allowing the undesired electromagnetic signal 84a to pass through a first plasma filter 86, as described previously. ~~Further~~Additionally, the antenna 80 is further protected from receiving (non-reflected) undesired electromagnetic signal 84b by the presence of a second plasma filter 88. Alternatively, desired electromagnetic signal 82a can be reflected from the first plasma filter 86 and focused on the antenna element 80. Further, the second plasma filter 88 can be configured such that desired electromagnetic signal 82b can pass

therethrough and reflect from the first plasma filter 86 to a receiving location of the antenna 88.

Please replace paragraph [0042] with the following replacement paragraph (shown marked-up):

[0042] In accordance with the principles described herein, a method for selectively receiving an electromagnetic signal from a remote source can comprise the steps of identifying a desired electromagnetic signal frequency to be received from at least one remote source emitting multiple electromagnetic signal frequencies, including the desired electromagnetic signal frequency and at least one undesired electromagnetic signal frequency; generating a plasma that reflects a first electromagnetic signal frequency emitted from the remote source, while at the same time passing a second electromagnetic signal frequency, either the first electromagnetic signal frequency or the second electromagnetic signal frequency being the desired electromagnetic signal frequency; and positioning an antenna with respect to the plasma such that the desired electromagnetic signal frequency is received by the antenna, and the undesired electromagnetic signal frequency is not substantially received by the antenna. In one embodiment, the first electromagnetic signal frequency can be the desired electromagnetic signal frequency. In another embodiment, the second electromagnetic signal frequency can be the desired electromagnetic signal frequency. Further, the first and/or second electromagnetic signal frequency can be a range of electromagnetic signal frequency.